



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/032,144

12/20/2001

Patrice Roussel

042390.P12488

3547

45209

7590

07/07/2009

INTEL/BSTZ

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

1279 OAKMEAD PARKWAY

SUNNYVALE, CA 94085-4040

EXAMINER

GEIB, BENJAMIN P

ART UNIT

PAPER NUMBER

2181

MAIL DATE

DELIVERY MODE

07/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/032,144	Applicant(s) ROUSSEL, PATRICE	
	Examiner BENJAMIN P. GEIB	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-23,93-105 and 107-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23,93-105 and 107-120 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/20/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2181

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/20/2009 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 19-23, 93-105, and 109-120 are rejected under 35 U.S.C. 102(b) as being anticipated by Abdallah et al., US Patent 6,115,812 (herein after Abdallah).

4. Referring to claim 19, Abdallah has taught a method comprising:

storing only a plurality of non-continuous groups of source bits into a plurality of noncontiguous groups of destination storage locations in response to execution of a first instruction that does not specify an order in which the plurality of non-contiguous groups of source bits are to be stored into a plurality of non-contiguous groups of destination storage locations [*Figure 3E, column 6, lines 42-55*]; and

duplicating bits from the plurality of non-contiguous groups of storage locations into groups of destination storage locations adjacent to the non-continuous groups of destination storage locations [*Figure 3E, column 6, lines 42-55, When element 354 is BBDD*].

5. Referring to claim 20, Abdallah have taught the method of claim 19, as described above, and in which the source bits are stored in a first register [*Figure 3E, column 6, lines 42-55, element 350*].

Art Unit: 2181

6. Referring to claim 21, Abdallah have taught the method of claim 19, as described above, and in which the source bits represent a double-precision floating point value *[column 5, lines 26-40, column 4, lines 25-57]*.
7. Referring to claim 22, Abdallah have taught the method of claim 19, as described above, and in which the source bits are stored in a first memory location *[Figure 3E, column 6, lines 42-55, element 350]*.
8. Referring to claim 23, Abdallah have taught the method of claim 19, as described above, and in which the source bits represent a single-precision floating point value *[column 5, lines 26-40, column 4, lines 25-57]*
9. Referring to claim 93, Abdallah has taught an apparatus comprising:
 - a first storage area to store a plurality of non-contiguous groups of source bits in response to execution of a first instruction *[Figure 3E, column 6, lines 42-55, elements 350 and 354, When element 354 is BBDD];* and
 - a second storage area to store only the plurality of non-contiguous groups of source bits into a plurality of non-contiguous groups of destination storage locations and to store contiguous duplicates of the plurality of noncontiguous groups of source bits *[Figure 3E, column 6, lines 42-55, elements 350 and 354, When element 354 is BBDD].*
10. Referring to claim 94, Abdallah have taught the apparatus of claim 93, as described above, and wherein the plurality of non-contiguous groups of source bits are to represent a plurality of 32-bit double-precision floating point value *[column 5, lines 26-40, column 4, lines 25-57]*.
11. Referring to claim 95, Abdallah have taught the apparatus of claim 94, as described above, and wherein the first storage area comprises a 128-bit memory location *[column 5, lines 26-40, column 4, lines 25-57, Figure 3E, element 350, Four times thirty-two equals 128].*
12. Referring to claim 96, Abdallah have taught the apparatus of claim 94, as described above, and wherein the first storage and second storage areas each comprise a 128-bit register *[column 5, lines 26-40, column 4, lines 25-57, Figure 3E, elements 350 and 354]*.

Art Unit: 2181

13. Referring to claim 97, Abdallah have taught the apparatus of claim 93, as described above, and wherein the plurality of non-contiguous groups of source bits comprise four single precision floating point values *[column 5, lines 26-40, column 4, lines 25-57, Figure 3E]*.

14. Referring to claim 98, Abdallah have taught the apparatus of claim 93, as described above, and wherein the second storage area is to store only two of the plurality of noncontiguous groups of source bits and their duplicates *[Figure 3E, column 6, lines 42-55, elements 3 50 and 3 54, When element 3 54 is BBDD only two are stored.]*.

15. Referring to claim 99, Abdallah have taught the apparatus of claim 93, as described above, and wherein the first and second storage areas are to store data corresponding to multimedia instructions *[column 1, lines 5-55]*.

16. Referring to claim 100, Abdallah have taught the apparatus of claim 99, as described above, and further comprising an execution unit to execute the multi-media instructions *[Figure 1, element 1 12]*.

17. Referring to claim 101, Abdallah has taught a system comprising:

a memory to store a plurality of instructions *[Figure 1, element 120]*;

a processor to fetch a first instruction from the memory, wherein the first instruction, if executed by the processor, is to cause the processor to store only a plurality of non-contiguous groups of source bits into a plurality of non-contiguous groups of destination storage locations and to store contiguous duplicates of the plurality of non-contiguous groups of source bits into groups of destination storage locations adjacent to the non-contiguous groups of destination storage locations *[Figure 3E, column 6, lines 42-55, When element 354 is BBDD]*.

18. Referring to claim 102, Abdallah have taught the system of claim 101, as described above, and wherein the plurality of non-contiguous groups of source bits include a least significant 32 source bits *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 350, D]*.

19. Referring to claim 103, Abdallah have taught the system of claim 10 1, as described above, and wherein the plurality of non-contiguous groups of source bits include a most significant 32 source bits *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 350, A]*.

Art Unit: 2181

20. Referring to claim 104, Abdallah have taught the system of claim 102, as described above, and wherein the plurality of non-contiguous groups of source bits include a second most significant group of 32 source bits *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 350, A].*

21. Referring to claim 105, Abdallah have taught the system of claim 103, as described above, and wherein the plurality of non-contiguous groups of source bits include a second least significant group of 32 source bits *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 350, D].*

22. Referring to claim 109, Abdallah have taught the system of claim 101, as described above, and wherein the processor is to fetch a second instruction from the memory *[Figure 1, element 110]*, the second instruction to store a first number of non-contiguous duplicates *[Figure 3E, column 6, lines 42-55, When element 354 is DDDD, there are three non-contiguous duplicates i.e. the first and third, the second and fourth and the first and fourth locations.]* of a second number of contiguous groups of source bits *[Figure 3E, column 6, lines 42-55, When element 354 is DDDD, element 350 only has one contiguous group of source bits.]* into a destination storage location *[Figure 3E, column 6, lines 42-55, element 354]*, the first number being larger than the second number *[Three is larger than one.]*.

23. Referring to claim 110, Abdallah has taught a machine-readable medium having stored thereon an instruction, which if executed by a machine, causes the machine to perform a method comprising:

storing bits (31-0) of a source value into bit storage locations (63-32) and (31-0) of a destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*,

storing bits (95-64) of the source value into bit storage locations (127-96) and (95-64) of the destination register, wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*.

24. Referring to claim 111, Abdallah has taught the machine-readable medium of claim 110, as described above, and wherein the source value is stored in a memory location *[Figure 3E, column 6, lines 42-55, element 350]*.

Art Unit: 2181

25. Referring to claim 112, Abdallah has taught the machine-readable medium of claim 110, as described above, and wherein the source value is stored in a register *[Figure 3E, column 6, lines 42-55, element 350]*.

26. Referring to claim 113, Abdallah has taught a machine-readable medium having stored thereon an instruction, which if executed by a machine causes the machine to perform a method comprising:

storing bits (63-32) of a source value into bit storage locations (31-0) and (63-32) of a destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC]*,

storing bits (127-96) of the source value into bit storage locations (127-96) and (95-64) of the destination register, wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC]*.

27. Referring to claim 114, Abdallah has taught the machine-readable medium of claim 113, as described above, and wherein the source value is stored in a memory location *[Figure 3E, column 6, lines 42-55, element 350]*.

28. Referring to claim 115, Abdallah has taught the machine-readable medium of claim 113, as described above, and wherein the source value is stored in a register *[Figure 3E, column 6, lines 42-55, element 350]*.

29. Referring to claim 116, Abdallah has taught a machine-readable medium having stored thereon an instruction, which if executed by a machine causes the machine to perform a method comprising:

storing only bits (63-32) of a source value into bit storage locations (127-96) and (63-32) of a destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is CDCD]*,

storing only bits (31-0) of the source value into bit storage locations (31-0) and (95-64) of the destination register, wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is CDCD]*.

Art Unit: 2181

30. Referring to claim 117, Abdallah has taught the machine-readable medium of claim 116, as described above, and wherein the source value is stored in a memory location *[Figure 3E, column 6, lines 42-55, element 350]*.

31. Referring to claim 118, Abdallah has taught the machine-readable medium of claim 116, as described above, and wherein the source value is stored in a register *[Figure 3E, column 6, lines 42-55, element 350]*.

32. Referring to claim 119, Abdallah has taught a machine-readable medium having stored thereon an instruction, which if executed by a machine, causes the machine to perform a method comprising:

storing bits [31-0] of a source value into bit storage locations [31-0] of a destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*;

duplicating bits from the bits storage locations [31-0] to bit storage locations [63-32] of the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*;

Storing bits [95-64] of the source value into bit storage locations [95-64] of the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*; and

Duplicating bits from the bit storage locations [95-64] to bit storage locations [127-96] of the destination register, wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is BBDD]*.

33. Referring to claim 120, Abdallah has taught a machine-readable medium having stored thereon an instruction, which if executed by a machine causes the machine to perform a method comprising:

storing bits [63-32] of a source value into bit storage locations [63-32] of a destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC]*;

duplicating bits from the bit storage locations [63-32] to bit storage locations [31-0] of the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC]*;

storing bits [127-96] of the source value into bit storage locations [127-96] of the destination register *[Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC]*; and

Art Unit: 2181

duplicating bits from the bit storage locations [127-96] to bit storage locations [95-64] of the destination register, wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register [*Figure 3E, column 5, lines 26-40, column 6, lines 42-55, element 354 is AACC*].

Claim Rejections - 35 USC § 103

34. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

35. Claims 107 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abdallah.

36. Referring to claims 107 and 108, Abdallah has taught the systems of claims 104 and 105, as described above. Abdallah has not taught wherein the first instruction is a MOVSHDUP or a MOVSLDUP instruction. However the difference is only found in the nonfunctional descriptive material and is not functionally involved in the steps recited. The storing would be performed the same regardless of the name of the instruction. Thus this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381,1385,217 USPQ 401,404 (Fed. Cir. 1983) *In re Lowry*, 32 F.3d 1579,32 USPQ2d 1031 (Fed. Cir. 1994). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the instructions be labeled anything, including, MOVSHDUP and MOVSLDUP, because merely labeling the instructions differently from that in the prior art would have been obvious. See *Gulack* cited above.

Response to Arguments

37. Applicant's arguments with respect to claims 19, 20, 22, 93, 98, 99, 100, 101, and 109 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2181

38. Applicant's arguments filed 04/20/2009 have been fully considered but they are not persuasive.

39. Applicant argues the novelty/rejection of the claims, in substance that:

A) "Abdallah fails to disclose at least 'wherein the instruction does not include a code to designate the order in which the source bits are to be stored in the destination register' as required by claim 110." (page 12 of reply)

B) "Applicant respectfully request the Office Action to explain why result 354 is to "BBDD" but not otherwise, such as other possibilities listed in Abdallah." (page 14 of reply)

40. These arguments are not found persuasive for the following reasons:

41. Regarding point A), as noted previously, simply because Abdallah is silent on the order designation does not require that the instruction must include a code to designate the order. The above-cited claim language describes the invention in terms of what it is not. Nothing in Abdallah contradicts the claim language and, therefore, Abdallah has taught the invention as claimed.

42. Regarding point B), Abdallah has taught that the result may be any one of the result organizations possible by shuffling the four source elements. See column 6, lines 42-55. Therefore, Abdallah has explicitly taught instructions that produce all possible results of shuffling the source elements. The choice of "BBDD" (and any other choice) listed by the office action is merely a notation that that particular result reads upon the claimed language.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN P. GEIB whose telephone number is (571)272-8628. The examiner can normally be reached on Mon-Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2181

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alford W. Kindred/
Supervisory Patent Examiner, Art Unit 2181

Benjamin P Geib
Examiner
Art Unit 2181

/Benjamin P Geib/
Examiner, Art Unit 2181